REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 16-22, 27, 28 and 30 are now present in this application. Claims 16 and 27 are independent.

By this Amendment, claims 16 and 27 have been amended. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Claim Objections

The Examiner has objected to claim 16 because of a minor informality. In order to overcome this objection, Applicants have amended claim 16 in order to correct the informality. Reconsideration and withdrawal of this objection are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 16, 19, 20, 27 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,761,083 to Brown, Jr. et al. ("Brown") in view of U.S. Patent 6,178,362 to Woolard et al. ("Woolard"), U.S. Patent Application Publication 2002/0076939 to Li et al. ("Li"), JP 2002-183258 to Naotaka, and U.S. Patent Application Publication 2002/0115435 to Soh. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Claim 16, as amended, recites a central control system for controlling air conditioners, comprising a plurality of air conditioners installed indoors that perform air conditioning operations; and a central controller that receives a control command to control the plurality of air conditioners, that monitors operating states of the controlled air conditioners, that automatically schedules control signals corresponding to the control command so that start times for operation of individual ones of the plurality of air conditioners can be adjusted to manage electric power consumption due to simultaneously operating the plurality of air conditioners, and that outputs the scheduled control signals to the plurality of air conditioners; wherein the central controller estimates a total amount of instant electric power consumption of the plurality of air conditioners; and based upon whether the total amount of estimated instant electric power exceeds an allowable range, the central controller adjusts an operation schedule of each of the plurality of air conditioners enabling the start times of each of the plurality of air conditioners to differ according to delay times, the central controller comprising a touch screen-based monitor configured to input the control command through a screen touch operation, wherein the central controller displays a control program for controlling operations of the air conditioners, the control program being executed so that a timetable in which an operation schedule for the plurality of air conditioners corresponding to a specified period can be displayed on the monitor, and the timetable can be input and edited from the monitor, the timetable having a number of cells, the control program converting colors of cells selected to input the operation schedule for the plurality of air conditioners can be distinguished from non-selected cells, and the selected cells distinguished by the colors can be displayed, the control program being further configured to receive the operation schedule of the designated air conditioners by dragging and selecting the cells on the monitor.

Claim 27 recites a method for controlling a plurality of air conditioners in a central control system, comprising transmitting, to the plurality of air conditioners, an operation schedule and a control command input through a central controller capable of performing central control operations for the plurality of air conditioners, and simultaneously monitoring operating states of the plurality of air conditioners; generating control signals so that the plurality of air conditioners can be operated in response to the operation schedule and the control command input at the transmitting; and adjusting start times for operation of each of the plurality of air conditioners to manage electric power consumption; wherein inputting the operation schedule for the plurality of air conditioners comprises: displaying a timetable having a plurality of cells on a touch screen based monitor of the central controller; receiving the operation schedule by dragging and selecting the cells on the monitor; displaying the selected cells on the monitor to define the operation schedule, the timetable being input-able and editable from the monitor; displaying the selected cells with colors different from non-selected cells, and adjusting an operation schedule of each of the plurality of air conditioners to enable the start times of each of the plurality of air conditioners to differ according to a delay time, based upon whether an estimated total amount of instant electric power consumed by the plurality of air conditioners exceeds an allowable range.

Applicants respectfully submit that none of the applied references, taken alone or in combination in accordance with the skill level and incentives and motivations of one of ordinary skill in the art, do not render obvious the claimed invention.

While Brown, the primary reference used in the rejection, discusses in col. 3, lines 38-44 one or more controllers 4 in each facility providing control signals to various electrical consuming devices such as heating and cooling units, etc., the only specific embodiments disclosed by Brown control just a single heating/cooling unit 38 (see col. 6, lines 1-21, and Fig. 2 of Brown). So, Brown is not directed to a central controller that receives a command to control a plurality of air conditioners installed indoors that perform air conditioning operations. The portions of Brown relied on in the rejection including col. 4 of Brown do not concern controlling plural air conditioners, but plural energy consuming devices, only one of which is specifically disclosed by Brown as being a heating/cooling unit. Thus, the primary reference in this rejection is not directed to the claimed invention.

Also, as admitted in the rejection, Brown fails to disclose a number of other features of the claimed invention. In an attempt to remedy the admitted deficiencies of Brown with respect to the claimed invention, the Office Action turns to several secondary references, which will be discussed, below.

Woolard discloses an energy management system which is directed to monitoring the energy consumption of various facilities of an energy user having large physical plants. As pointed out in the rejection, Woolard discloses generating an alarm when a predetermined condition exists concerning energy consumed and alerting a user with an alarm.

Applicants also note, in this regard, that Woolard discloses, in col. 7, lines 8-15, optimizing existing systems by, for example, balancing HVAC operating times to meet building use periods and environmental changes, and optimize existing equipment's usage. Also, in col. 6, lines 17-22, Woolard discloses having an alarm signaling function to generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality.

Based on Woolard, the Office Action concludes that it would be obvious to modify Brown to include the use of controlling air conditioners on the basis of energy consumption to prevent overloading of the power grid controlled by the electric company. Applicants respectfully disagree with this conclusion for a number of reasons.

Firstly, Brown's disclosed embodiments involve only a single HVAC controller and a single heating/cooling apparatus per unit (e.g., house), so there would be no reason to turn to Woolard's control and monitoring system to modify Brown's single HVAC controller matched with a single heating/cooling device.

Secondly, neither Brown nor Woolard discloses wherein the central controller estimates a total amount of instant electric power consumption of the plurality of air conditioners, and based upon whether the total amount of estimated instant electric power exceeds an allowable range, the central controller adjusts an operation schedule of each of the plurality of air conditioners enabling the start times of each of the plurality of air conditioners to differ according to delay times, as claimed

The Office Action then turns to Li to address the touch screen feature and the color distinguishing feature of the invention. While Li appears to disclose such features, the claimed invention is not limited to using a touch screen and a color distinguishing feature. In this regard, Applicants note that the claimed invention recites the central controller displays a control program for controlling operations of the air conditioners, the control program being executed so that a timetable in which an operation schedule for the plurality of air conditioners corresponding to a specified period can be displayed on the monitor, and the timetable can be input and edited from the monitor, the timetable having a number of cells, the control program converting colors of cells selected to input the operation schedule for the plurality of air conditioners can be distinguished from non-selected cells, and the selected cells distinguished by the colors can be displayed, the control program being further configured to receive the operation schedule of the designated air conditioners by dragging and selecting the cells on the monitor.

The Office Action then turns to Naotaka as teaching that a timetable can be input and edited from the monitor and, in view of this, concludes that it would be obvious to modify the central control system of Brown, Li and Woolard to include the timetable as taught by Naotaka to easily edit cells in a timetable for viewing by other users. Applicants respectfully disagree with this statement of what is taught by Naotaka and with the conclusion of obviousness for a number of reasons.

Firstly, Natoaka is limited to permitting a user to look up train operating schedules in the form of a timetable to select one or more schedules that the user is interested in and to display them for the user in a real time basis so that the user can be apprised of timetable changes for the selected train(s). Naotaka's system does not control trains with the schedule and does not control a user's selection. Rather, Naotaka's system permits a user to make timetable selections for one or more trains and updates a user's selection on a real time basis.

Naotaka's system does not control air conditioners or other energy consuming devices whatsoever with its timetable. The only thing that Naotaka controls is the real time display of the train timetable components selected by a user. Naotaka is limited to this disclosure which does not provide any reasonable incentive to one of ordinary skill in the air conditioner control art to modify an air conditioner control system to provide a train schedule timetable in the air conditioner control system.

The reason given in the rejection to justify turning to Naotaka to modify the Brown-Woolard-Li reference combination is in order for a user to easily edit cells in a timetable for viewing by others.

Applicants respectfully submit that this rationale begs the question it addresses because it does not explain why one of ordinary skill in the air conditioner control art would be properly motivated to turn to Naotaka's train timetable user update system, which does not control any energy using devices whatsoever, to modify an air conditioner control system where no indication of what parameters in the air conditioner control system correspond to the train timetable parameters and why making such a comparison would not require invention to achieve.

The only apparent reason to include Naotaka in this rejection is impermissible hindsight reconstruction of the claimed invention based solely on Applicants' disclosure.

The Office Action then turns to Soh, which appears to be mis-described in the rejection. The Office Action states that Soh teaches a touch screen based control system featuring the ability to drag cells on a monitor, in paragraph 0032. However, inspection of paragraph 0032 of Soh reveals only the use of a touch screen monitor (in a restaurant setting where restaurant tables, for example, are displayed) with absolutely no mention whatsoever of "drag" or of "dragging" or of "cells" occurs. In fact, a word search of the text of Soh reveals that no instance of any of these three quoted words is found in Soh.

Because Soh does not disclose the features for which it is applied, this rejection is fatally flawed, and should be withdrawn.

Accordingly, for the reasons presented above, Applicants respectfully submit that the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Reconsideration and withdrawal of this rejection of claims 16, 19, 20, 27 and 30 are respectfully requested.

Claims 17 and 18 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,761,083 to Brown, Jr. et al. ("Brown") in view of U.S. Patent 6,178,362 to Woolard et al. ("Woolard"), U.S. Patent Application Publication 2002/0076939 to Li et al. ("Li"), JP 2002-183258 to Naotaka, and U.S. Patent Application Publication 2002/0115435 to Soh as applied above, and further in view of Kikuchi et al. ("Kikuchi"). This rejection is respectfully traversed.

Applicants respectfully submit that the Brown-Woolard-Li-Naotaka-Soh reference combination does not render the subject matter of claim 16 unpatentable for reasons stated above.

Moreover, Kikuchi is not applied to remedy the aforementioned shortcomings of the base reference combination.

Accordingly, even if the base reference combination were modified, as suggested, by Kikuchi, the so-modified version of the base reference combination would still not meet, suggest, or otherwise render obvious the claimed invention.

Additionally, Applicants have been unable to locate where Kikuchi discloses air conditioners connected on an internal network. Paragraph [0008] of Kikuchi only discloses controlling air conditioning equipment over a public line or the Internet, which is not an internal network.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Reconsideration and withdrawal of this rejection of claims 17 and 18 are respectfully requested.

Claims 21, 22 and 28 stand rejected under 35 USC §103(a) in view of the Brown-Woolard-Li-Naotaka-Soh reference combination discussed above, further in view of U.S. Patent 6,241,156 to Kline et al. ("Kline"). This rejection is respectfully traversed.

Applicants respectfully submit that the Brown-Woolard-Li-Naotaka-Soh reference combination does not render the subject matter of claim 16 unpatentable for reasons stated above. Moreover, Kline is not applied to remedy the aforementioned shortcomings of the base reference combination.

Accordingly, even if the base reference combination were modified, as suggested, by Kline the so-modified version of the base reference combination would still not meet, suggest, or otherwise render obvious the claimed invention.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Reconsideration and withdrawal of this rejection of claims 21, 22 and 28 are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46, 472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Rober J. Webster Reg. No. 46,472 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By______________________________
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